

# **TRANSPORTATION FUEL DEMAND FORECAST HOUSEHOLD AND COMMERCIAL FLEET SURVEY**

Focus Group Results

*Prepared For:*

**CALIFORNIA ENERGY COMMISSION**

*Prepared By:*

**Resource Systems Group, Inc.**



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***Prepared By:***

**Resource Systems Group, Inc.**

Tom Adler, Mark Fowler  
55 Railroad Row  
White River Junction, VT 05001  
Contract No: 600-07-602

***Prepared For:***

**California Energy Commission**

**Sherri Bower**

Contract Manager

**Libbie Bessman**

Project Manager

**Jim Page**

*Manager*  
FOSSIL FUELS OFFICE

**Pat Perez**

*Deputy Director*  
FUELS AND TRANSPORTATION

**Melissa Jones**

*Executive Director*

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# **ABSTRACT**

This report summarizes the findings of six separate focus groups conducted for the California Energy Commission (Energy Commission) on 26–27 August 2008 and 18 September 2008. The focus groups were conducted as part of the Energy Commission’s California Vehicle survey of households and commercial fleets.

The Energy Commission’s California Vehicle survey of households and commercial fleets is designed to collect revealed and stated preference data from automobile drivers and commercial fleet managers. Choice models estimated with this data will be used as inputs to update the Energy Commission’s transportation fuel demand model, known as the CALCARS model.

The primary purpose of conducting the focus groups was to compile information to assist with the final design of the household vehicle and commercial fleet surveys, including:

1. Understand participant knowledge of vehicle purchase incentives for alternative fuel and high efficiency vehicles, as well as their response to and interest in purchasing new types of vehicles, in using alternative fuels, and pricing options.
2. Gauge what, if any, additional information should be provided to individuals completing the recruitment survey and stated preference survey to improve the survey experience.
3. Ensure that the survey questionnaire design matches the overall project goals.

Findings from the focus groups influenced several aspects of the questionnaire design, including the instructions and information that respondents would need to complete the survey and which vehicle attributes should be included or removed from the choice experiments.

# Introduction

This report summarizes the findings of a total of six focus groups conducted for the California Energy Commission as part of their California Vehicles Survey. The purpose of these groups was to evaluate the design of the California Vehicles Survey by obtaining input from participants about:

1. Their understanding of alternative fuel and high efficiency vehicles, incentives for purchasing alternative fuel vehicles, and interest in purchasing alternative fuel vehicles.
2. Determine what, if any, additional information should be provided to individuals completing the California Vehicles Recruitment Survey and Stated Preference survey to improve the survey experience.
3. Ensure that the California Vehicles Survey questionnaire design matches the overall project goals.

An initial set of four focus groups was conducted in August 2008. Two of these groups consisted of residential participants who intended to purchase a new vehicle within the next three years, one group consisted of residential participants who intended to purchase a used vehicle within the next three years, and the final group consisted of commercial vehicle fleet managers who intended to replace a vehicle in their fleet within the next three years.

Because changes were made to the survey design after the initial set of four groups were conducted, including the addition of several more alternative fuel types, two supplemental residential focus groups were conducted in September 2008 using the updated fuel types and questionnaire design.

This study was designed as qualitative research, meaning that it can be used to identify the types of concerns that individuals raise and can indicate generally whether participants react positively or negatively to issues regarding alternative fuel vehicles, purchase incentives, and the sample stated preference survey. Although some numbers are reported, the reader should be careful not to assume that they can be used to project the opinions and behavior of the full population.

## Residential Focus Groups

Robert Thomas Brown and Company (RTBCO) and Resource Systems Group, Inc. (RSG) conducted a total of five residential focus groups in August and September 2008. RTBCO moderated the first set of three residential focus groups on 26–27 August 2008, while RSG moderated the last two focus groups on 18 September 2008. Of the four groups, three were conducted with residential participants intending to purchase a new vehicle within the next three years and one was conducted with residential participants intending to purchase a used vehicle within the next three years.

The focus groups were held in the Los Angeles area and in the San Francisco area at the facilities of Trotta Associates and Fleischman Field Research.

**Table 1: Residential Focus Group Locations and Schedule**

Date	Time	Location	Participants
26 August 2008	8:00 PM	Fleischman Field Research, San Francisco, CA	8
27 August 2008	6:00 PM	Trotta Associates, Marina Del Ray, CA	10
27 August 2008	8:00 PM	Trotta Associates, Marina Del Ray, CA	10
18 September 2008	6:00 PM	Fleischman Field Research, San Francisco, CA	10
18 September 2008	8:00 PM	Fleischman Field Research, San Francisco, CA	10

## Residential Recruitment

Trotta Associates recruited participants for all five residential groups. Recruiters contacted potential participants and asked a set of screening and demographics questions to determine if individuals qualified for the groups. Candidates were screened out if they:

- were under the age of 18
- had participated in recent market research studies
- did not have any responsibility for household vehicle purchases
- did not drive a vehicle
- had not purchase or leased a vehicle in the past three years
- did not intend to purchase or lease a vehicle within the next three years

Demographic questions were asked to ensure a diverse sample of participants. Questions were asked about public transportation use, miles driven per week, current vehicle make and model, education, race, age, and gender. Trotta Associates attempted to obtain a good mix of participants across all demographic categories.

Twelve participants were recruited for each of the five groups, with the expectation that up to one-third of participants would not show-up for each group. Over-recruiting ensured that the target group size of 8-10 participants could be met. Incentives of \$100 per individual were provided to increase participation rates.

## Background and Introductions

Each focus group began with an explanation of the purpose of the session and a brief overview of the ground rules. Participants were informed that they were being recorded and that they were being observed by Energy Commission staff through a two-way mirror. Participants were assured that their responses during the session would remain confidential as provided by the California Public Records Act.

Following the introduction and explanation of ground rules, participants were asked to introduce themselves and provide information about their vehicle ownership and use,

including the number and types of vehicles in their household, what the vehicles were used for, and the number of miles each vehicle was driven annually.

The types of vehicles and annual miles driven varied greatly within and across groups. A large range of vehicle types were represented, from compact sedans, to full-sized SUVs, and pickup trucks. Similarly, the number of miles driven annually varied greatly, from a few thousand miles per year up to 35,000 miles per year or more.

Few participants owned alternative fuel vehicles. One participant had leased a natural gas vehicle in the past, and two participants owned hybrid-electric cars. None of the participants reported currently owning natural gas, clean diesel, E85, or plug-in hybrid electric vehicles.

## **Vehicle Purchase Process**

Participants were asked what factors had influenced the purchase of their current vehicle and what factors would influence the purchase of their next vehicle. Answers were highly variable, but generally included some or all of the following factors:

- Safety
- Reliability
- Fuel economy
- Style
- Performance
- Vehicle size/convenience
- Ease of parking

While fuel economy was important to many focus group participants in general, it was not the most commonly-cited factor. Many participants did not want to sacrifice safety, performance, size, and convenience for improved fuel economy. However, when participants were asked whether their next vehicle would have better, worse, or the same fuel economy as their current vehicle, the majority of participants said their next vehicle would have better fuel economy. Some participants expected their next vehicle to have the same fuel economy as their current vehicle, while very few expected to purchase a vehicle with worse fuel economy.

Ease of parking was frequently cited as an important issue by participants in the San Francisco groups. Several mentioned that a small vehicle was important for getting around the city and being easy to park. This is in contrast to the Los Angeles groups, where parking did not appear to be an important factor.

## **Vehicle Usage Behavior**

Due to high gas prices, many participants reported changing their driving behavior. Changes that were mentioned included linking multiple trips together (trip chaining), carpooling, walking or riding bikes when possible, using public transportation more often, driving the most fuel efficient vehicle in the household more often, and eliminating unnecessary trips. Many participants reported cutting back on leisure and vacation trips. Some participants reported

changing the way they drive by traveling at slower speeds and coasting more often. One San Francisco participant used to go to Big Sur every weekend during the summer, but no longer goes at all. One Los Angeles participant reported only filling up her tank once a week, and not traveling at all if gas ran low.

The extent to which driving and vehicle usage behavior had changed due to gas prices was highly dependent on how much participants currently drove. Several participants with short commutes to work said that they had not really changed their behavior. For example, one L.A. participant worked from home and drove his daughter a half mile to school every day. He reported that gas prices haven't had any effect on his driving habits.

## **Knowledge of Alternative Fuel Vehicles and High Efficiency Vehicles**

In the next section of each session, participants discussed what they knew about several different types of alternative fuel or high efficiency vehicles and what their reactions were to those fuel types. Participants were first asked what they knew about a particular fuel type. Then, the moderator read a description of each fuel type and asked what the strengths and weaknesses were for each one. The initial set of three focus groups conducted by RTBCO in August 2008 only addressed six alternative fuel or high-efficiency vehicle types, including standard gasoline fuel efficient vehicles, E85/Flex Fuel, light-duty diesel, compressed natural gas, hybrid electric, and plug-in hybrid electric. The final set of two focus groups conducted by RSG added propane, full electric, and hydrogen vehicles to the discussion.

### **Standard Gasoline Fuel Efficient Vehicles**

Nearly all participants were aware of fuel efficient standard gasoline vehicles, and the majority considered this to be a vehicle that got 30–35 miles per gallon on the highway. Some participants mentioned safety issues with fuel efficient subcompact cars. All are aware that manufacturers are pushing fuel efficiency as a selling point with the recent increase in gas prices. Specific vehicles mentioned by participants included the Smart Car and the Toyota Yaris.

### **E85/Flex Fuel**

The majority of participants had never heard of E85 or the term “Flex Fuel.” Those who had heard of E85 tended to view it negatively. Some participants mentioned concerns about using food for fuel. Others had heard that it takes more energy to produce ethanol than you get out of burning it. No one had noticed E85 availability at any gas stations in their area. After hearing a description of the fuel, no one said they would consider a Flex Fuel vehicle for their next purchase.

### **Light-Duty Diesel**

Most participants were aware of light-duty diesel vehicles, but not necessarily aware that advanced diesel technology meets emissions requirements in all 50 states. Positive aspects of diesel that were mentioned were the ability to run on biodiesel and vegetable oil, which participants believed would be cheaper and produce less emissions.



However, the majority of participants had negative associations with diesel including increased pollution, noise, and unpleasant smells. Others reported hearing about difficulty starting diesel vehicles in cold temperatures. Many were aware that diesel was more expensive than gas, but not sure if the increase in efficiency would offset the high fuel prices. Upon learning that modern diesel engines corrected most of the issues mentioned above, the majority of participants remained skeptical and none were willing to consider diesel for their next vehicle purchase.

## **Light-Duty Compressed Natural Gas**

The majority of participants were not familiar with compressed natural gas (CNG) vehicles. One participant in the Los Angeles groups had driven a CNG vehicle in the past, and a few other participants had seen the vehicles on the road or in advertisements. Safety was cited most frequently as a concern after learning about CNG vehicles. Participants were concerned about getting in an accident with a CNG vehicle and the safety of the home fueling station. Other concerns included the shorter range and lack of fueling stations. One San Francisco participant cited the short range as a “deal breaker,” because the vehicle couldn’t be used for long trips to Lake Tahoe.

Refueling time was another concern discussed by the participants. Some were not comfortable with the several-hour fueling process using the home fueling station. Others felt it wouldn’t matter because it would refuel while they were asleep. Several participants mentioned that renters and condo-dwellers had no place to install the home fueling station, which would make it more difficult to refuel.

Although the majority of participants had a negative view of CNG, a few expressed interest after learning that CNG vehicles had significantly lower per-mile operating costs than gasoline vehicles. A few participants said they would consider the vehicle for commuting purposes.

## **Propane**

As with compressed natural gas, most participants were not familiar with propane. As with natural gas, many of the same drawbacks were mentioned, including safety, fuel availability, and driving range. No participants said that they would consider a propane vehicle for their next vehicle purchase.

## **Hybrid Electric**

Nearly all participants were familiar with hybrid-electric vehicles, many mentioned the Toyota Prius by name, and a few participants owned a Prius. Benefits of hybrid electric vehicles mentioned by participants included better fuel economy, reduced fuel costs, and lower emissions.

Despite the increase in fuel efficiency, most participants were skeptical about hybrid technology for a variety of reasons, including the increased cost of hybrids, safety concerns about the high voltage battery pack in the event of an accident, battery life and cost of replacing batteries, and environmental concerns about recycling the batteries. When asked how much more expensive hybrids were compared to conventional vehicles answers included 20% and \$5,000. Many believed that it would take several years to recover the additional cost of a hybrid in terms of fuel savings, if at all.

Although much of the discussion focused on what were perceived to be negative aspects of hybrid vehicles, participants seemed to be more comfortable with this technology than the other alternative fuel or high efficiency vehicles that were discussed. Many participants said they would consider a hybrid-electric vehicle for their next purchase, if it met their other requirements in a vehicle and the price was reasonable.

## **Plug-in Hybrid Electric**

Participants were less familiar with plug-in hybrid-electric vehicles, and there seemed to be some confusion between conventional hybrid, plug-in hybrid, and full electric technologies. For example, many participants initially had concerns about the battery-only range of the vehicle and the lack of charging infrastructure. One participant mentioned the “Tesla Volt”, referring to the Chevrolet Volt, a plug-in series hybrid vehicle currently under development by General Motors, but confusing it with Tesla Motors, the manufacturer of the fully electric Tesla Roadster. Other concerns included the cost of electricity required to charge the vehicle and whether that would be more than the cost of gasoline.

The positive aspects of plug-in hybrid technology mentioned by participants included the large gains in fuel economy, the reduction of emissions, and the potential ability to charge the batteries using solar power. Participants who were previously aware of plug-in hybrid vehicle technology mentioned fuel economy numbers in the range of 100 miles per gallon.

Many participants said they would consider a plug-in hybrid electric vehicle for their next purchase, depending on vehicle type and price.

## **Full Electric**

Most participants were not aware of full electric vehicles and had not seen them out on the roads. These vehicles were generally greeted with skepticism, as participants had concerns about the potential for a short range, lack of charging infrastructure, cost of electricity, and slow top speeds. One participant mentioned “You couldn’t commute from San Jose to San Francisco.”

Most participants said they would not consider a full electric vehicle for their next purchase, at least until the technology has matured.

## **Hydrogen**

Many participants viewed hydrogen as the ultimate energy solution:

- “That’s the future. All other technologies will be a bridge to hydrogen.”
- “Abundant. Clean. Efficient. We don’t have to worry about running out of fuel.”
- “I love the fact that water is the byproduct.”

Other participants were concerned that the price of hydrogen technology was too high and that fuel distribution would be an issue. Several mentioned the “chicken vs. egg” situation of fleets of hydrogen vehicles and the existence of a hydrogen refueling infrastructure.

Most participants were not able to distinguish hydrogen fuel cell technology from hydrogen internal combustion technology.

## Purchase and Use Incentives and Public Policy

After discussing the different alternative fuel and high efficiency vehicles, participants were asked to comment on a list of potential incentives for purchasing a high efficiency vehicle. The list included 15 incentives grouped into four main categories:

- Public Outreach and Information
  - “Green” Vehicle Sticker
  - Enhanced Public Information Campaigns
- Alternative Fuel Benefits
  - Free or Reduced Fee Parking
  - Use of the Diamond Lane as a Single Occupant
  - Reduced Tolls
- Reduced Vehicle Purchase Price
  - Subsidy for Purchasing a Plug-in Hybrid Electric Vehicle
  - Dealer Incentives
  - Tax Credit on Vehicle Purchase
  - Reduced Sales Tax on Vehicle Purchase (vehicle or gas purchase)
  - Cash Incentive/Rebate at Time of Purchase
  - Reduced Vehicle Registration Fee
- Subsidized Fuel Incentives
  - Subsidizing Fuel Purchases (i.e. \$2.99 per gallon for 5 years)
  - State Subsidized Alternative Fuel Purchase Card
  - Tax Credits on Tax Return
  - Mandatory Increase in the Number of Alternative Fuel Stations

While most participants agreed that more information about alternative fuel vehicles was needed, a green sticker was not going to move them to purchase a vehicle. It might push them to ask the owner of a vehicle about the sticker. Generally, participants felt the state should take more responsibility in providing information to the public about alternative fuel vehicles.

Free or reduced parking was very popular in the San Francisco groups. This incentive was less desirable in Los Angeles, where there is plenty of free parking available in many communities. Several participants in both San Francisco and Los Angeles were aware of the carpool lane access program that allowed certain fuel efficient vehicles into the high occupancy vehicle lane regardless of vehicle occupancy. Many in San Francisco expressed disappointment that the maximum number of carpool lane access stickers had already been issued and the program was

no longer available. Reduced tolls were also viewed favorably by most participants, although some expressed concern that this benefit only applies to those who currently use toll facilities and others wanted to know by how much the tolls would be reduced.

Nearly all participants agreed that there should be some kind of subsidy for purchasing an alternative fuel vehicle to offset the higher price for some of the advanced technologies. Some felt that the subsidy should cover the entire difference in cost from a standard gasoline vehicle, while others thought the cost should be split between subsidy and consumer. Differences were expressed over what kind of incentive or rebate would be the most preferred. Many felt that a tax credit would be best, while others preferred an instant rebate. Several participants felt that reduced registration or insurance costs would be helpful to reduce the total cost of vehicle ownership.

Subsidized fuel incentives were not as popular as the other incentives, but still important to some participants. The availability of alternative fuel stations was a big concern in the purchase of an alternative fuel vehicle for many participants, so the mandatory increase in the number of alternative fuel stations was viewed favorably. Several people felt that this would solve the “chicken vs. egg” dilemma of alternative fuel stations and alternative fuel vehicles. Participants were also concerned about the potentially large number of different alternative fuels that might be available in the future. One participant noted “I have a mental image of everyone running out of fuel with all of these different types of fuels and different fuel stations.” Some felt that a state or national level policy was required to set a clear direction for alternative fuel vehicles, and possibly even mandate which types of alternative fuels should be used in the future.

## Choice Exercises

To conclude each focus group, participants were given a set of stated preference choice situations to evaluate. The purpose of this exercise was to determine if participants understood the situations presented to them and what, if anything, was unclear to them. The stated preference exercises presented each participant with four hypothetical vehicles. The first vehicle was described as the new or used vehicle they were planning to purchase next, while the next three alternatives presented different alternative fuel vehicles. Each vehicle was described by 10-12 attributes, depending on fuel type:

- Vehicle Type
- Fuel Type
- Age of Vehicle
- Purchase Price
- Incentive
- MPG or Equivalent (*September 2008 supplemental focus groups only*)
- Fuel Cost
- Maintenance Cost per Year
- Acceleration (0 – 60 mph)

- Gradability (*August 2008 focus groups only*)
- Fuel Availability (*September 2008 supplemental focus groups only. If fuel type is full electric or compressed natural gas*)
- Refueling Time (*September 2008 supplemental focus groups only. If fuel type is full electric or compressed natural gas*)
- Driving Range (*September 2008 supplemental focus groups only. If fuel type is full electric or compressed natural gas*)

Participants were asked to select the vehicle they would most prefer to purchase based on the attributes presented in each alternative. After selecting a vehicle, participants were asked to estimate how many miles per year they would likely drive using the vehicle they selected.

The choice experiments presented in the supplemental focus groups in September 2008 differed slightly from the choice experiments presented in the initial set of focus groups. In the initial set of groups, the choice experiments were based largely on the design developed by KEMA for the previous version of the California Vehicle Survey conducted in 2007. The second set of focus groups saw a slightly modified design, including the addition of compressed natural gas, hydrogen, and full electric fuel types. Three attributes were added to describe these new fuel types, including fuel availability, refueling time, and driving range. Gradability was removed as an attribute because most participants found it to be similar to acceleration, and acceleration appears to be the more important of the two attributes. The manner in which fuel cost was presented in the experiments was also changed between the August 2008 and September 2008 focus groups. In the August 2008 focus groups, fuel cost was expressed in cents per mile, while in the September 2008 groups fuel cost was presented as miles per gallon (or mpg equivalent for some fuel types) and annual fuel cost.

Figure 1 presents a sample tradeoff experiment from the August 2008 groups, while Figure 2 presents a sample tradeoff experiment from the September 2008 groups.

**Figure 1: Example Residential Stated Preference Experiment (August 2008 Focus Groups)**

Vehicle Choice # 1	Vehicle A	Vehicle B	Vehicle C	Vehicle D
<b>Vehicle Type</b>	Large Car: Buick LeSabre, Ford Crown Victoria	Large Car: Buick LeSabre, Ford Crown Victoria	Small cross utility car: Chrysler PT Cruiser, Toyota Matrix	Small cross-utility SUV: Toyota RAV4, Honda CRV, Ford Escape
<b>Fuel Type</b>	Hybrid Electric	Flex-Fuel Capability	Plug-in Hybrid Electric	Advanced Diesel
<b>Age of Vehicle</b>	New (2008)	New (2008)	New (2008)	New (2008)
<b>Acceleration (0 – 60 mph)</b>	8.9 seconds	10.1 seconds	11.2 seconds	7.8 seconds
<b>Gradability (speed going up a hill)</b>	68.5 mph	70 mph	75 mph	70 mph
<b>Purchase Price</b>	\$39,400	\$40,600	\$24,700	\$32,300
<b>Incentive</b>	None	Carpool Lane Access	Reduced Tolls	None
<b>Fuel Cost per Mile</b>	\$0.11	\$0.12	\$0.06	\$0.06
<b>Maintenance Cost per Year</b>	\$578	\$903	\$544	\$645
<b>Select One:</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please estimate how many miles per year you will drive the vehicle you chose in the experiment above:

- ☐ About 10,000 miles per year.
- ☐ Less than 10,000 miles per year. Approximately \_\_\_\_\_ miles per year.
- ☐ More than 10,000 miles per year. Approximately \_\_\_\_\_ miles per year.

**Figure 2: Example Residential Stated Preference Experiment (September 2008 Focus Groups)**

	Vehicle A	Vehicle B	Vehicle C	Vehicle D
<b>Vehicle Type</b>	The type of vehicle you plan to purchase	Standard pick-up truck: Ford F150, GMC Sierra, Toyota Tundra	Mid-size car: Honda Accord, Ford Taurus, Toyota Camry	Mid-size car: Honda Accord, Ford Taurus, Toyota Camry
<b>Fuel Type</b>	Standard Gasoline	Plug-in Hybrid Electric	Full Electric	Compressed Natural Gas
<b>Age of Vehicle</b>	New (2008/2009)	New (2008/2009)	New (2008/2009)	New (2008/2009)
<b>Purchase Price</b>	\$39,400	\$30,600	\$37,400	\$24,700
<b>Incentive</b>	None	Free Parking	\$1,000 Tax Credit	Reduced Tolls (50%)
<b>MPG or Equivalent</b>	25 MPG	80 MPG	110 MPG	28 MPG
<b>Fuel Cost per Year</b>	\$2,200	\$800	\$400	\$850
<b>Maintenance Cost per Year</b>	\$578	\$906	\$514	\$709
<b>Acceleration (0 – 60 mph)</b>	8.9 seconds	11.4 seconds	6.1 seconds	7.3 seconds
<b>Fuel Availability</b>	-	-	Charging Available at Work	1 in 10 stations have natural gas
<b>Refueling Time</b>	-	-	8 hrs to Charge	10 Minutes to Fill Tank
<b>Driving Range</b>	-	-	40 Miles	150 Miles
<b>Select One:</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please estimate how many miles per year you will drive the vehicle you chose in the experiment above:

- ☐ About 10,000 miles per year.
- ☐ Less than 10,000 miles per year. Approximately \_\_\_\_\_ miles per year.
- ☐ More than 10,000 miles per year. Approximately \_\_\_\_\_ miles per year.

Most participants were able to comprehend the purpose of the tasks and the tradeoffs involved in each choice, although several participants had trouble with the hypothetical nature of the alternatives. For example, one participant couldn't get past the fact that a RAV4 isn't currently offered in a diesel. Another stated that he wanted a hybrid, but didn't like the body style and asked if he could change it. Some participants focused on vehicle makes and models, which could influence choice even though it is a factor that is not intentionally or directly measured in these exercises.

Most participants were able to understand each of the attributes that were presented for the alternatives, though some were not aware what 0–60 acceleration times for an average vehicle were. One participant preferred acceleration to be described as “fast, faster, fastest.”

In general, cost was the most important attribute for the majority of participants. This encompassed purchase price, fuel cost, and maintenance cost, although some participants said that maintenance costs varied so little across the alternatives that it was not a factor in their decision. Indicating fuel costs using annual fuel costs and miles per gallon seemed to make it easier for participants to calculate a payback period for alternative fuel technologies. This calculation is much more difficult for participants when fuel costs are expressed in cents per mile. Vehicle type was also very important to participants, as many already have a clear idea of the type of vehicle they are planning to purchase next. Many were disappointed that the vehicle type they wanted to purchase next was not presented as an alternative fuel vehicle in these experiments.

Several participants made their decisions based on fuel types and fuel availability. For example, one participant did not choose the diesel vehicle alternatives because of the price of diesel. Another did not choose any plug-in alternatives because she lived in a multi-family apartment building and would have no place to plug the vehicle in at night.

## **Commercial Fleet Manager Focus Groups**

Robert Thomas Brown and Company (RTBCO) conducted the commercial fleet manager focus group on 26 August, 2008. The focus group was held in downtown San Francisco at Fleischman Field Research.

Participants in this group were commercial vehicle fleet managers who intended to purchase or lease vehicles for their fleet within the next three years. Commercial vehicle fleet managers are responsible for making decisions about the types of vehicle to purchase for a corporate vehicle fleet. The job title for a fleet manager varies by company; in a small company it may be the owner or CFO, while in a larger company it could be a fleet manager or director.

## **Commercial Vehicle Recruitment**

Commercial vehicle fleet manager candidates were asked a set of screening questions to determine if they qualified to participate in the focus groups. Candidates were screened out if they:

- worked for a research firm or had participated in recent market research
- were not responsible for making vehicle purchase decisions for their fleet
- worked in the rental car or automobile industries
- worked for a government agency
- were not likely to purchase a new vehicle for their fleet within the next 3 years

Twelve participants were recruited for the commercial fleet manager focus group, with the expectation that up to one-third of participants would not show-up. Over-recruiting ensured



that the target group size of 8–10 participants could be met. Incentives of \$150 per individual were provided to increase participation rates.

## **Background and Introductions**

The commercial fleet manager focus group began with an explanation of the purpose of the session and brief overview of the ground rules. Participants were informed that they were being recorded and that they were being observed by Energy Commission staff through a two-way mirror. Participants were assured that their responses during the session would remain confidential as provided by the California Public Records Act.

Following the introduction and explanation of ground rules, participants were asked to introduce themselves and provide information about their company, the number and types of vehicles in their fleet, what the vehicles were used for, and the number of miles each vehicle was driven.

Participants reported a wide range of fleet sizes and mileages. Most participants reported miles driven per day, not annual mileage. Fleet sizes ranged from 2 vehicles to more than 90, and mileage estimates ranged from less than 20 miles per day to over 200 miles per day. Most businesses purchased vehicles for their fleet outright, but some reported leasing vehicles. One fleet manager reported having hybrid vehicles in her fleet.

The vehicles are used for a wide variety of purposes, including carpet cleaning, deliveries and couriering, construction site visits, and employee transportation. Most participants reported having a fixed replacement schedule for their fleet vehicles, with replacement times between three and five years. One participant leased all company vehicles on a three year schedule.

## **Vehicle Purchase Process**

The factors that were important to commercial vehicle fleet managers were slightly different than the factors reported by residential participants. Gas mileage was very important, but utility and convenience were also key factors. Ultimately, many of these vehicles need to be used for a specialized task. Size and cargo capacity was important, as was convenience, such as the ability to reconfigure the interior for different tasks. Reliability was very important for some participants, particularly the ones that had employees travel long distances in fleet vehicles every day. Purchase price was another important factor, as many businesses have a fixed budget amount for vehicle purchases that cannot be exceeded.

All participants hoped to purchase or lease new vehicles with better gas mileage than the vehicles currently in their fleet.

## **Vehicle Usage Behavior**

Many fleet managers reported that they have changed their operations because of increased fuel costs. One manager reported using GPS in all of their vehicles to make their drivers more efficient. This reduced the amount of time searching for a particular address and allowed them to avoid construction detours and delays, ultimately saving fuel. Others reported reducing the number of trips their employees make by linking multiple trips together (trip chaining) or the creation of multiple offsite storage facilities in decentralized locations. Some managers reported

that they would like to change their vehicle usage behavior, but are not able to because of the nature of their business.

## **Concerns for the Environment**

The majority of participants were concerned about their impact on the environment. Many expressed a desire have more environmentally friendly vehicle fleets, but were frustrated that there are no alternative options of environmentally friendly vehicles with the features and capacity they need. One participant noted “There are no options for trucks. And trucks use so much gas. They only get 7-8 mpg.” Others were concerned that the current generation of hybrid vehicles were not designed for heavy duty commercial use.

## **Knowledge of Alternative Fuel Vehicles and High Efficiency Vehicles**

In the next section, participants discussed what they knew about several different types of alternative fuel or high efficiency vehicles and what their reactions were to those fuel types. Participants were first asked what they knew about a particular fuel type. Then, the moderator read a description of each fuel type and asked what the strengths and weaknesses were for each one. The commercial fleet manager focus group was conducted before propane, hydrogen, and full electric vehicles were added as alternative fuel types. Therefore, this discussion focused on the six initial fuel types that included standard gasoline fuel efficient vehicles, E85/Flex Fuel, light-duty diesel, compressed natural gas, hybrid electric, and plug-in hybrid electric.

### **Standard Gasoline Fuel Efficient Vehicles**

Nearly all participants were aware of fuel efficient standard gasoline vehicles, and the majority considered this to be a vehicle that got 30 miles per gallon on the highway. All agreed that 15 mpg would be efficient for larger trucks, and 20–25 mpg would be considered efficient for large vans.

### **E85/Flex Fuel**

Participants were not very familiar with E85. Only a few participants have ever seen it at a fueling station in the San Francisco area. Concerns were expressed about the large subsidies for ethanol and the use of a food supply for fuel.

### **Light Duty Diesel**

Some participants were aware of the efficiency benefits of diesel vehicles, but are concerned that the price of diesel fuel is higher now. It is unclear to them whether the gains in efficiency offset the higher cost of fuel.

### **Compressed Natural Gas**

Most participants did not have direct experience with natural gas vehicles. Some concerns were expressed over the safety of the vehicle and the power and performance of the vehicle around the hills of San Francisco.

## **Hybrid Electric**

Nearly all of the fleet managers were aware of hybrid electric vehicles. One manager with hybrid vehicles in her fleet reported a negative experience with the vehicles that seemed to influence the other participants. She felt the vehicles were under-powered for the purposes of her fleet and she was planning to replace them as soon as possible. Other concerns included the cost of hybrid technology and payback period in terms of fuel savings. Most participants thought they would wait for future generations of hybrid vehicles before purchasing any for their fleets.

## **Plug-in Hybrid Electric**

As with the residential groups, there seemed to be some confusion between plug-in hybrid vehicles and full electric vehicles. Most of the discussion focused on the availability of charging stations and plug-in infrastructure. Participants reported seeing plug-in stations across various parts of the state, including around the state capitol in Sacramento.

When asked if they would consider purchasing any of these alternative fuel vehicles for their fleet, participants overwhelmingly answered “no.” Those fleet managers with hybrid vehicles were not looking at anything beyond hybrids, and in some cases, were considering reverting back to standard gasoline vehicles. There seemed to be consensus among participants that they would like to purchase alternative fuel vehicles, but concerns about the increased cost, lack of fueling infrastructure, and what many believed to be unproven technologies in some of these vehicles outweighed the potential benefits.

## **Purchase and Use Incentives and Public Policy**

After discussing the different alternative fuel and high efficiency vehicles, participants were asked to comment on a list of potential incentives for purchasing a high efficiency vehicle. The list included 15 incentives grouped into four main categories:

- Public Outreach and Information
  - “Green” Vehicle Sticker
  - Enhanced Public Information Campaigns
- Alternative Fuel Benefits
  - Free or Reduced Fee Parking
  - Use of the Diamond Lane as a Single Occupant
  - Reduced Tolls
- Reduced Vehicle Purchase Price
  - Subsidy for Purchasing a Plug-in Hybrid Electric Vehicle
  - Dealer Incentives
  - Tax Credit on Vehicle Purchase

- Reduced Sales Tax on Vehicle Purchase (vehicle or gas purchase)
- Cash Incentive/Rebate at Time of Purchase
- Reduced Vehicle Registration Fee
- Subsidized Fuel Incentives
  - Subsidizing Fuel Purchases (i.e. \$2.99 per gallon for 5 years)
  - State Subsidized Alternative Fuel Purchase Card
  - Tax Credits on Tax Return
  - Mandatory Increase in the Number of Alternative Fuel Stations

Many participants felt that more information was needed about the types of vehicles that were available. While this wouldn't directly influence their decision to purchase an alternative fuel vehicle, public information campaigns would allow them to make informed decisions in the future.

Benefits such as free parking, use of the diamond lane, and reduced tolls were viewed favorably by most participants.

Incentives that reduced the purchase price of the vehicle were the most likely to get participants to purchase an alternative fuel vehicle for their fleet. Many participants liked the idea of a tax credit. One participant with hybrid vehicles in her fleet reported that the hybrid vehicles were approximately \$7,000 higher than the cost of a similar conventional vehicle. The majority of participants agreed that the purchase price needed to be reduced to the point where the higher price for alternative fuel technology would be offset by the fuel savings within their three year ownership window.

## Choice Exercises

To conclude the focus group, participants were given a set of eight stated preference choice experiments to evaluate. The purpose of this exercise was to determine if participants understood the experiments presented to them and what, if anything, was unclear to them. The stated preference exercises presented each participant with four hypothetical vehicles. The first vehicle was described as the new or used vehicle they were planning to purchase next for their fleet, while the next three alternatives presented different alternative fuel vehicles. Each vehicle was described by 9 attributes:

- Vehicle Type
- Fuel Type
- Age of Vehicle
- Purchase Price
- Incentive
- Fuel Cost

- Maintenance Cost per Year
- Acceleration (0 – 60 mph)
- Gradability

Participants were asked to select the vehicle they would most prefer to purchase based on the attributes presented in each alternative. After selecting a vehicle, participants were asked to estimate how many miles per year they would likely drive using the vehicle they selected. Figure 3 presents a sample tradeoff experiment that was presented to commercial fleet participants.

**Figure 3: Example Commercial Fleet Stated Preference Experiment**

Vehicle Choice # 1	Vehicle A	Vehicle B	Vehicle C	Vehicle D
<b>Vehicle Type</b>	Compact car: Honda Civic, Chevy Cavalier, Ford Focus	Mid-size cross-utility SUV: Toyota Highlander, Honda Pilot, Lexus RX300	Large car: Buick LeSabre, Ford Crown Victoria	Large van: Ford Econoline, Chevy Express, Dodge Ram Van
<b>Fuel Type</b>	Standard Gasoline	Standard Gasoline	Plug-in Hybrid Electric	Advanced Diesel
<b>Age of Vehicle</b>	New (2007)	New (2007)	New (2007)	New (2007)
<b>Acceleration (0 – 60 mph)</b>	8.9 seconds	7.3 seconds	10.9 seconds	11.5 seconds
<b>Gradability (speed going up a hill)</b>	70 mph	70 mph	65 mph	70 mph
<b>Purchase Price</b>	\$26,600	\$36,000	\$36,400	\$23,800
<b>Incentive</b>	None	None	None	Free Parking
<b>Fuel Cost per Mile</b>	\$0.10	\$0.14	\$0.04	\$0.14
<b>Maintenance Cost per Year</b>	\$611	\$743	\$433	\$657
<b>Select One:</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please estimate how many miles per year you will drive the vehicle you chose in the experiment above:

- ☐ About 10,000 miles per year.
- ☐ Less than 10,000 miles per year. Approximately \_\_\_\_\_ miles per year.
- ☐ More than 10,000 miles per year. Approximately \_\_\_\_\_ miles per year.

Participants in this group generally understood what was being asked of them and reported that the tradeoffs were fairly clear. The majority focused on costs, which encompassed purchase price, fuel costs and maintenance costs. Some participants focused on brand; one mentioned that she generally chose the Honda Civic, and another mentioned that he would not purchase an American vehicle. This is of some concern, as the vehicle makes and models are used only

for the purposes of describing vehicle types and are not intended to be considered by participants in their choices.

Similar to the residential groups, vehicle type was a significant attribute for many participants. Some companies have specific vehicle needs and switching vehicle sizes or types was not practical.

## Conclusions and Recommendations

The conclusions and recommendations from the five residential and one commercial vehicle focus groups are outlined below.

- **Descriptions of alternative fuel vehicles need to be clear and concise.** There is a significant amount of confusion about the different types of hybrid, plug-in hybrid, and full electric vehicles. In particular, care needs to be taken to differentiate a plug-in hybrid from a full electric vehicle. Many participants believed that a plug-in hybrid has similar range limitations and recharging requirements as a full electric vehicle. In addition, many characteristics of the other alternative fuel types, including advanced diesel, E85, CNG, and propane are relatively unknown. There are a few misconceptions about new advanced diesel technology and CNG technology that negatively influenced many participants, including the smell, noise, and emissions of diesel and the safety of CNG fueling. Addressing these concerns in the vehicle descriptions of the questionnaire could affect the outcome of the choice experiments. In the online version of the survey, hover technology should be used to provide additional information as the respondent passes their mouse over each fuel type in the choice experiments.
- **Instructions for the choice experiments should more clearly address the hypothetical nature of the experiments.** Several participants expressed doubt that the vehicles presented to them in the choice experiments existed or would exist in the future. The hypothetical nature of the experiments should be clearly outlined and emphasized at the beginning of the choice experiments, instructing respondents to choose a vehicle based only on the attributes presented in each experiment and not whether or not the combinations of attributes seem plausible to them.
- **Vehicle makes and models should be removed from vehicle type attribute.** Many participants in both the residential and commercial vehicle groups reported focusing on a particular make or model of vehicle. While this descriptive information does help to clarify the 15 different levels of the vehicle type attribute, it also influences choice and will therefore bias the vehicle type attribute. Additionally, providing both the vehicle type and several example vehicles takes up a significant amount of space on each page, drawing more attention to that attribute and creating clutter on the page or webpage. Respondents are presented with a significant amount of information in each choice experiment, particularly with the addition of new attributes, and removing the vehicle make and model information would help to simplify each choice scenario.
- **Gradability should be removed as an attribute.** Gradability was found to be similar to the acceleration attribute for many participants. Again, with the addition of new attributes and increased information presented in each experiment, removing

gradability would help simplify the experiments, reduce respondent burden, and result in a minimal loss of information.

- **Fuel costs should be expressed as a yearly cost along with miles per gallon equivalent.** The focus groups confirmed that miles per gallon is an important factor and that all participants evaluated fuel efficiency using this metric, regardless of fuel type. Also, participants were able to calculate payback times much more easily when presented with annual fuel costs per year as opposed to cents per mile.
- **Include attributes for fuel availability, range, and refueling time.** The attributes that were added for fuel availability, range, and refueling time were all significant factors for many participants. All three of these factors should be included in the final experimental design.
- **Keep the incentive levels the same as previous versions of the survey.** This year's focus groups confirmed that the incentives presented for the previous survey in 2007, including diamond lane access, free parking, reduced tolls, and tax credits, are still the most favorable incentives for purchasing an alternative fuel vehicle among participants.

## **Appendix A: Residential Moderator Guide**



## Objectives and Approach:

- a) Survey Design: Compile information to assist with final design of recruitment survey and stated preference survey.
  - i) Understand automobile users' knowledge of vehicle purchase incentives for alternate fuel and new vehicle technologies and response to and interest in purchasing new types of vehicles, in using alternative fuels, and pricing options.
  - ii) Gauge what, if any, additional information should be provided to individuals completing the recruitment survey and stated preference survey to improve the survey experience.
  - iii) Ensure that question (and overall questionnaire) design matches the overall project goals.
- b) Consumer Behavior: Identify factors that influence consumer behavior in purchasing energy efficient or alternative fuel vehicles.
- c) Public Policy Initiatives: Identify factors that influence automobile users' responses to public policy initiatives that are designed to reduce growth in petroleum dependence. Assess automobile users' responses to these public policies.

These objectives will be accomplished by conducting a series of three focus groups in late August 2008. Each focus group session will include 8–10 participants and will be approximately 1.5–2 hours in duration. The three focus groups will be as follows: a Los Angeles group of automobile users who have indicated they will purchase a new vehicle in the next three years, a Los Angeles group of automobile travelers who have indicated they will purchase a used vehicle in the next three years, and a San Francisco group of automobile users who have indicated they will purchase a new vehicle in the next three years.

Note: Respondents will receive a list of alternative fuel vehicle and incentive definitions to review as they arrive at the facility.

- 1) Focus Group Introduction and Participant Introductions (20 min)
  - a) State purpose (see above)
  - b) Ground rules
    - i) Session will last 1.5–2 hours
    - ii) Being observed by CA Energy Commission staff
    - iii) Being recorded. Please speak clearly, one at a time
    - iv) Confidentiality: All information will be confidential by the involved groups (contractors and the CA Energy Commission) as provided for by the CA Public Records Act
    - v) We take seriously and value your opinions and what you have to say
  - c) Personal Introductions: Please provide some information about yourself
    - i) Name, residence (town/city), household size, employment status, and employer location (town/city)
    - ii) Current vehicle ownership by number, class, vintage of vehicles, vehicle ownership type (own or lease), and length of ownership (bought new or used)

- iii) Vehicle usage: How do you commute to work? How do you monitor your vehicle usage (number of miles driven, vehicle mpg, etc)? Can you estimate your daily miles traveled for work and leisure and/or estimate annual vehicle miles traveled (VMT) for work and for leisure (participant and participant's household members)?
- 2) Vehicle Purchase Process (current and future vehicles) (20 min)
  - a) What most influenced your decision to purchase your current car? What other factors influenced your decision? (If you have more than one vehicle – think about the one you use the most)
  - b) If you were to replace your vehicle tomorrow, what would you buy? Why? When are you planning to purchase your next vehicle?
  - c) What aspects of a vehicle (or vehicle attributes) will you consider when buying a new (or used) vehicle at that time? What is most important to you? What is not important to you?
  - d) Will you be likely to purchase a vehicle with better, worse, or the same gas mileage (mpg) as your current vehicle? Why?
- 3) Vehicle Usage Behavior & Openness to Purchasing an Alternative Fuel Vehicle or High Efficiency Vehicle (30 min)
  - a) Vehicle Usage
    - i) Have you changed your driving behavior in the last six months? How? (drive less, string together trips, carpool, use public transit more, etc) How are gas prices affecting your travel behavior?
    - ii) Have current gas prices affected the makes and models you're considering for purchasing your next vehicle? Have you changed the kind of vehicles and/or the time-frame you're considering for your next vehicle purchase?
    - iii) Have concerns for the environment, carbon emissions, or climate change affected the makes and models you're considering for purchasing your next vehicle?
    - iv) What are your criteria for determining acceptable vs. unacceptable fuel economy (15 mpg, 20 mpg, 25 mpg, 30+ mpg)?
  - b) Knowledge of Alternative Fuel Vehicles and High Efficiency Vehicles
    - i) Please define an alternative fuel vehicle or high efficiency vehicle.
      - (1) Discuss definitions and provide list:
        - (a) hybrid electric
        - (b) plug-in hybrid
        - (c) full electric
        - (d) flex fuel
        - (e) light-duty diesel
        - (f) light-duty compressed natural gas
        - (g) light-duty propane
        - (h) standard gasoline fuel-efficient vehicle
        - (i) hydrogen
      - (2) For each of the 8 types of alternative fuel or high efficiency vehicles –what are its strengths? Weaknesses? Have you driven one? Which do you most prefer? Why?

- (3) Fuel availability: Have you noticed the availability of alternative fuels or diesel at gas stations in your area? What kinds?
  - ii) How likely are you to purchase an alternative fuel or high efficiency vehicle as your next vehicle purchase? If not immediately, would you consider it in the future? (5 years, 10 years?)
  - iii) Is there a specific vehicle type you would consider?
  - iv) Would you need some sort of incentive to purchase an alternative fuel vehicle as your next vehicle purchase (in the next 3 years)?
- c) Incentives to Purchasing an Alternative Fuel or High Efficiency Vehicle
  - i) What types of incentives are you aware of for purchasing an alternative fuel vehicle?
  - ii) What would be your ideal incentive to entice you to purchase an alternative fuel vehicle?
  - iii) Reactions to potential incentives:
    - (1) Public Outreach & Information:
      - (a) “Green” vehicle sticker
      - (b) Enhanced public information campaign
    - (2) Alternative Fuel Benefits
      - (a) Free or reduced parking
      - (b) Use of a carpool or express lane
      - (c) Reduced tolls
    - (3) Reduced Vehicle Purchase Price
      - (a) Subsidy for purchasing a plug-in hybrid electric vehicle
      - (b) Dealer incentives
      - (c) Tax credit on vehicle purchase
      - (d) Reduced sales tax on vehicle purchase
      - (e) Cash incentives/rebate at time of purchase
      - (f) Reduced registration fee
    - (4) Subsidized Fuel Incentives
      - (a) Subsidized fuel purchases
      - (b) State subsidized alternative fuel purchase card
      - (c) Tax credits on tax return
      - (d) Subsidies to increase the number of alternative fuel stations and hence availability
  - iv) Strengths and weaknesses of each?

#### **4) Public Policy Initiatives (15 min)**

- a) What policies are you aware of that the State of California is enacting or following to decrease reliance on petroleum usage?
- b) What would you recommend that California focus on in sharing policy plans with the public? What does the public need to know (anything you learned today) and how would you share it?

#### **5) Reactions to Stated Preference Survey (20 min)**

- a) Provide introduction and tradeoff experiments from previous survey and discuss:
  - i) Were the introduction and instructions clear? What would you change to make them clearer?
  - ii) Is it easy to choose a vehicle from the list? What is confusing or difficult about the choice exercises?
  - iii) Why did you choose the vehicle you did? Which attributes were important? Which did you ignore?
  - iv) What additional information, if any, would be helpful to complete the choice exercises?

**6) Client Questions and Follow-up (10 min)**

- a) Any questions or clarification requested by observers

## **Appendix B: Commercial Fleet Manager Moderator Guide**

## Objectives and Approach:

- a) Survey Design: Compile information to assist with final design of recruitment survey and stated preference survey
  - i) Understand commercial vehicle fleet managers' knowledge of vehicle purchase incentives for alternate fuel and new vehicle technologies and response to and interest in purchasing new types of vehicles, in using alternative fuels, and pricing options.
  - ii) Gauge what, if any, additional information should be provided to individuals completing the recruitment survey and stated preference survey to improve the survey experience
  - iii) Ensure that question (and overall questionnaire) design matches the overall project goals
- b) Consumer Behavior: Identify factors that influence consumer behavior in purchasing energy efficient vehicles or vehicles that do not operate on petroleum-based fuels
- c) Public Policy Initiatives: Identify factors that influence commercial vehicle fleet managers' responses to public policy initiatives that are designed to reduce growth in petroleum dependence. Assess commercial vehicle fleet managers' responses to these public policies.

These objectives will be accomplished by conducting a focus group in late August 2008 in San Francisco. The focus group will include 8–10 participants and will be approximately 1.5–2 hours in duration. The focus group will comprise commercial vehicle fleet owners from the San Francisco area.

Note: Respondents will receive a list of attribute definitions to review as they arrive at the facility.

- 7) Focus Group Introduction and Participant Introductions (20 min)
  - a) State purpose (see above)
  - b) Ground rules
    - i) Session will last 1.5–2 hours
    - ii) Being observed by CA Energy Commission staff
    - iii) Being recorded. Please speak clearly, one at a time
    - iv) Confidentiality: All information will be confidential by the involved groups (contractors and the CA Energy Commission) as provided for by the CA Public Records Act
    - v) We take seriously and value your opinions and what you have to say
  - c) Personal Introductions: Please provide some information about your company
    - i) Name, job title, kind of business, industry, kind of goods carried (if applicable), and number of employees
    - ii) Kinds of vehicles in fleet, number of vehicles in fleet, makes and model years. For rest of discussion, please think about the kind of vehicle that is used most frequency/makes up the biggest percentage of your fleet.
    - iii) Vehicle usage: What is the average length of your trips? (miles?) What are the daily miles traveled and/or estimated annual vehicle miles traveled (VMT)?

- 8) Vehicle Purchase Process (current and future vehicles) (20 min)
  - a) What most influences your company's decision to purchase vehicles to add to or replace existing vehicles in your fleet? What other factors influence the decision?
  - b) If you were to purchase vehicles for your fleet tomorrow, what would you buy? Why? When are you next planning to purchase a vehicle (or vehicles) for your company's fleet?
  - c) What aspects are most important to your fleet? What is not important to you? Do you purchase new or used vehicles (or both)?
  - d) Will you be likely to purchase vehicles for your fleet with better, worse, or the same gas mileage (mpg) as the current vehicles in your fleet? Why?
- 9) Vehicle Usage Behavior & Openness to Purchasing an Alternative Fuel Vehicle or High Efficiency Vehicle (30 min)
  - a) Vehicle Usage
    - i) Have your drivers changed their driving behavior in the last six months due to gas prices? How? (String together trips more, different hours of the day, etc)
    - ii) Have current gas prices affected the makes and models you're considering for purchasing vehicles for your fleet? Have you changed the kind of vehicles and/or the time-frame you're considering for your next vehicle purchase?
    - iii) Have concerns for the environment, carbon emissions, or climate change affected the makes and models you're considering for purchasing vehicles for your fleet? What about your customers?
    - iv) What are your criteria for determining acceptable vs. unacceptable fuel economy (15 mpg, 20 mpg, 25+ mpg)?
  - b) Knowledge of Alternative Fuel Vehicles and High Efficiency Vehicles
    - i) Please define an alternative fuel vehicle or high efficiency vehicle.
      - (1) Discuss definitions and provide list:
        - (a) hybrid electric
        - (b) plug-in hybrid
        - (c) flex fuel
        - (d) light-duty diesel
        - (e) light-duty compressed natural gas
        - (f) standard gasoline fuel-efficient vehicle
      - (2) For each of the 5 types of alternative fuel or high efficiency vehicles – what are its strengths? Weaknesses? Have you driven one? Which do you most prefer? Why?
      - (3) Fuel availability: Have you noticed the availability of alternative fuels or diesel at gas stations in your area? What kinds?
    - ii) How likely are you to consider purchasing an alternative fuel or high efficiency vehicle for your company's fleet?
    - iii) Is there a specific vehicle type you would consider?
    - iv) Would you need some sort of incentive to purchase an alternative fuel or high efficiency vehicle for your fleet (in the next three years)?
  - c) Incentives to Purchasing an Alternative Fuel or High Efficiency Vehicle

- i) What types of incentives are you aware of for purchasing an alternative fuel vehicle?
- ii) What would be your ideal incentive to entice you to purchase an alternative fuel vehicle for your fleet?
- iii) Reactions to potential incentives:
  - (1) Public Outreach & Information:
    - (a) “Green” vehicle sticker
    - (b) Enhanced public information campaign
  - (2) Alternative Fuel Benefits
    - (a) Free or reduced parking
    - (b) Use of a carpool or express lane
    - (c) Reduced Tolls
  - (3) Reduced Vehicle Purchase Price
    - (a) Subsidy for purchasing a plug-in hybrid electric vehicle
    - (b) Dealer incentives
    - (c) Tax credit on vehicle purchase
    - (d) Reduced sales tax on vehicle purchase
    - (e) Cash incentives/rebate at time of purchase
    - (f) Reduced registration fee
  - (4) Subsidized Fuel Incentives
    - (a) Subsidized fuel purchases
    - (b) State subsidized alternative fuel purchase card
    - (c) Tax credits on tax return
    - (d) Subsidies to increase the number of alternative fuel stations and hence availability
- iv) Strengths and weaknesses of each?

#### **10) Public Policy Initiatives (15 min)**

- a) What policies are you aware of that the State of California is enacting or following to decrease reliance on petroleum usage?
- b) What would you recommend that California focus on in sharing policy plans with commercial fleet managers? What do commercial fleet managers need to know (anything you learned today) and how would you share it? What are the priorities of commercial fleet managers?

#### **11) Reactions to Stated Preference Survey (20 min)**

- a) Provide introduction and tradeoff experiments from previous survey:
  - i) Were the introduction and instructions clear? What would you change to make them clearer?
  - ii) Is it easy to choose a vehicle from the list? What is confusing or difficult about the choice exercises?
  - iii) Why did you choose the vehicle you did? Which attributes were important? Which did you ignore?



- iv) What additional information, if any, would be helpful to complete the choice exercises?

**12) Client Questions and Follow-up (10 min)**

- a) Feedback to improve participation of fleet managers:
  - i) Best way to approach respondents/increase likelihood of reaching respondents
  - ii) What would/would not impact your decision to take this survey?
- b) Any questions or clarification requested by observers

## **Appendix C: Alternative Fuel and Incentive Definitions**

## Alternative Fuel Definitions

Alternative Fuel Vehicles:	Description
<b>Hybrid Electric Vehicles</b>	A hybrid electric vehicle (HEV) is powered by a standard gasoline engine as well as an electric motor with a battery. The battery is charged by regenerative braking. When traveling at low speeds or idling, a hybrid electric vehicle typically operates using the electric motor, thus saving gasoline. When the vehicle reaches a certain speed, it switches over to the gasoline engine for increased speed and power.
<b>Plug-In Hybrid Electric Vehicles</b>	A plug-in hybrid electric vehicle (PHEV) operates exactly like the hybrid electric vehicle (HEV) above. However, in addition to the one battery that a HEV contains, the PHEV has a second battery that can be charged by plugging it into an electrical outlet. The driver can decide to operate the vehicle solely on the second battery for short trips of moderate speed without needing to utilize the gasoline engine. As a result, PHEV vehicles get better gas mileage than a standard hybrid electric vehicle.
<b>Full Electric Vehicles</b>	A full electric vehicle is powered only by an electric motor. The battery is charged by plugging into an electrical outlet. There is no gasoline engine and the vehicle produces no direct emissions.
<b>Flex Fuel Vehicles (E85)</b>	A flexible fuel vehicle (FFV) is a vehicle that can operate on a blend of ethanol and gas. The blend containing 85% ethanol and 15% gasoline is called E85. If E85 is not available, the vehicle can operate on regular gasoline, or on any percentage of ethanol blends containing up to 85% of ethanol. Ethanol is a clean, environmentally friendly fuel and produces less hydrocarbon and greenhouse gas emissions than gasoline fuel.
<b>Light-Duty Diesel Vehicles</b>	Light-duty diesel (LDD) vehicles are cars, mini- and full-sized vans, and small and full-sized pickup trucks that use diesel fuel instead of gasoline. Today's advanced LDDs offer high performance, high fuel economy, and low emissions compared to past gasoline and diesel engines. These new LDDs provide 45% better fuel economy compared to the equivalent gasoline powered car. LDDs can also use renewable diesel fuels derived from soy products or animal fats.

<b>Light-Duty Compressed Natural Gas Vehicles</b>	Natural gas is a completely non-petroleum transportation fuel option. It is used in the form of compressed natural gas (CNG) or liquefied natural gas (LNG). Vehicles using CNG include passenger cars and light trucks, medium-duty delivery trucks, and heavy-duty vehicles such as transit buses, school buses, and street sweepers. Only Honda includes light-duty natural gas vehicles in their 2008 model year. Honda has introduced a home-fueling system, “Phill,” that is now being offered to its CNG vehicle customers. Dozens of heavy-duty natural gas vehicles are available for order but are constrained by a limited number of engine models.
<b>Standard Gasoline Fuel Efficient Vehicles</b>	Operated on gasoline that can contain up to 10% ethanol, but gets higher mileage per gallon than the average vehicle in its class (over 30 mpg). May be lighter in weight but need not be less safe.

## Incentive Definitions

### Public Outreach and Information

<b>“Green” Vehicle Sticker</b>	“Green” sticker to display on advanced and energy efficient vehicles. This incentive might involve a promotional campaign to promote awareness and acceptance of alternative fuel vehicles using a universal “green” logo much like the ENERGY STAR program.
<b>Enhanced Public Information Campaigns</b>	More information made available to the public regarding advanced and energy efficient vehicle technologies. This incentive would involve promoting consumer knowledge of advanced and energy efficient vehicle technologies. Promotional information could be distributed through mailers, TV commercials, and/or billboards.

### Alternative Fuel Benefits

<b>Free or Reduced Fee Parking</b>	Free metered parking / free parking / preferred parking (for example, next to handicap parking spots or EV hook-up spots at airports) The use of different parking incentives would be included here. Free metered parking might require registration and a sticker much like HOV stickers. The free parking incentive might be specific spots offered for specific types of alternative vehicles. Preferred parking would involve setting aside parking spots which are close to locations such as movie theaters, supermarkets, airports, and malls.
<b>Use of the Diamond Lane as a Single Occupant</b>	This incentive would involve the expansion of current incentive by including alternative fuel vehicles as recipients of the HOV lane use sticker program.

<b>Reduced Tolls</b>	This incentive would provide reduced tolls for alternative fuel or high efficiency vehicles.
<b>Reduced Vehicle Purchase Price</b>	
<b>Subsidy for Purchasing a Plug-in Hybrid Electric Vehicle</b>	Monetary incentive for purchasing a plug-in hybrid vehicle.
<b>Dealer Incentives</b>	Monetary incentive to either the automotive dealer or the potential vehicle purchaser for selling alternative fuel vehicles.
<b>Tax Credit on Vehicle Purchase</b>	The incremental cost of purchasing an alternative fuel vehicle would be subsidized up to 50% through a tax credit. This would decrease the time to realize the return on investment associated with paying a premium to purchase an alternative fuel vehicle. The actual percentage of the tax credit may be higher or lower.
<b>Reduced Sales Tax on Vehicle Purchase (vehicle or gas purchase)</b>	This incentive would involve the reduction or elimination of sales tax on either an alternative fuel vehicle purchase or fuel purchases for an alternative fuel vehicle.
<b>Cash Incentive/Rebate at Time of Purchase</b>	This incentive would offer a cash rebate at the time of purchase of an alternative fuel vehicle and would go directly to the consumer and be administered through the automobile dealerships.
<b>Reduced Vehicle Registration Fee</b>	The vehicle registration fee would be reduced and would lower the initial cost of purchasing an alternative fuel vehicle.

## Subsidized Fuel Incentives

<b>Subsidizing Fuel Purchases (i.e. \$2.99 per gallon for 5 years)</b>	<p>This incentive would offer a consumer a 'discounted' or partially subsidized purchase of fuel. California would pay the difference in fuel price from a set fuel price; such as \$2.99 per gasoline gallon equivalent (or some other appropriate value). This would be very similar to the recent offers by auto manufacturers when purchasing specific new cars.</p>
<b>State Subsidized Alternative Fuel Purchase Card</b>	<p>This incentive would offer alternative fuel users with a California debit card which can be used at designated retailers to purchase alternative fuel. The charges could be fully subsidized or partially subsidized and would be focused on specific fuels.</p>
<b>Tax Credits on Tax Return</b>	<p><b>50% incremental cost of alternative fuel vehicle (residential or commercial):</b> The incremental cost of purchasing an alternative fuel vehicle (instead of a traditional gasoline powered vehicle) would be subsidized by up to 50%. This would decrease the time to realize the return on investment associated with paying a premium to purchase an alternative fuel vehicle. The actual percentage could be higher or lower.</p>
<b>Mandatory Increase in the Number of Alternative Fuel Stations</b>	<p>This incentive would mandate an increase in the number of alternative fuel stations as a percent of total stations. If a consumer is considering purchasing a new alternative fuel vehicle, the infrastructure in existence for convenient (re)fueling may influence their decision of what kind of vehicle to purchase. For businesses, this incentive might provide support for funding of alternative fuel stations at or near company locations.</p>

## **Appendix D: Residential Focus Group Screener**

ABT SRBI#: 4444

PARTICIPATION: **California Residents – New Car Owners/Lessees**  
LOCATION: **Los Angeles**  
DATE: **Wednesday, August 27, 2008, 6:00 pm (Dinner)**  
INCENTIVE: **\$100**  
# RECRUITED: **12 New Car Owners**

NAME: \_\_\_\_\_ HOME PHONE: \_\_\_\_\_  
NAME OF COMPANY: \_\_\_\_\_ BUS. PHONE: \_\_\_\_\_  
MAILING ADDRESS: \_\_\_\_\_ CELL PHONE: \_\_\_\_\_  
\_\_\_\_\_  
FAX NUMBER: \_\_\_\_\_  
CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ RECRUITER: \_\_\_\_\_  
ZIP: \_\_\_\_\_ DATE LETTER SENT: \_\_\_\_\_

( ) MALE ( ) FEMALE

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#### CALIFORNIA RESIDENT NEW CAR GROUP SCREENER

WOULD LIKE A 50/50 MIX OF MALE AND FEMALE PARTICIPANTS

WOULD LIKE A MIX OF AGE CATEGORIES

WOULD LIKE MINORITY REPRESENTATION

WOULD LIKE A MIX OF INCOME

WOULD LIKE A MIX OF EDUCATION

WOULD LIKE A MIX OF MAKE/MODEL OF CAR

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#### (LEAVE MESSAGE ON 3<sup>RD</sup> ATTEMPT)

MESSG: Hello, my name is \_\_\_\_\_ and I'm calling from \_\_\_\_\_, a  
\_\_\_\_\_ company located in \_\_\_\_\_, California. We are not selling or  
promoting any products or services. We are conducting a vehicle preference research  
discussion group in your area of California residents. People who participate in this session will  
be paid. If you are interested in participating, please call \_\_\_\_\_ and ask  
for \_\_\_\_\_. Thank you for your time.

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INT1. Hello, my name is \_\_\_\_\_ and I'm calling from \_\_\_\_\_, a  
\_\_\_\_\_ company located in \_\_\_\_\_, California. We are not selling or  
promoting any products or services. We are conducting a vehicle research study of California  
residents regarding current and future vehicle fleet choice preferences. I have just a few  
questions and I want to assure you that we are simply interested in your opinions and there will  
not be any attempt to sell you anything at any time.



- S1. Do you or anyone in your household work for or is retired from any of the following...? (**READ LIST**)
- 1 A market research company (**THANK AND TERMINATE**)
  - 2 The media (TV, radio, newspaper, magazine) (**THANK AND TERMINATE**)
  - 3 An advertising agency (**THANK AND TERMINATE**)
  - 4 An automotive dealer or leasing agency, or (**THANK AND TERMINATE**)
  - 5 An automotive manufacturer or supplier (**THANK AND TERMINATE**)
  - 6 None of the above (**CONTINUE**)
- S2. Are you 18 years of age or older?
- 1 Yes (18 or older) (**CONTINUE**)
  - 2 No (under 18) (**CAN I PLEASE SPEAK WITH THAT PERSON? IF YES, GOTO INT1, IF NO, OBTAIN THE PERSON'S NAME AND SCHEDULE A CALL BACK**)
  - 3 Don't know/refused (**CAN I PLEASE SPEAK WITH THAT PERSON? IF YES, GOTO INT1, IF NO, OBTAIN THE PERSON'S NAME AND SCHEDULE A CALL BACK**)
- S3. Have you, yourself, participated in any kind of AUTOMOTIVE research in the past 12 months?
- 1 Yes (**THANK AND TERMINATE**)
  - 2 No (**CONTINUE**)
  - 3 Don't know/refused (**THANK AND TERMINATE**)
- S4. Have you, yourself, participated in research of ANY KIND in the past 6 months where you have been paid for your opinion?
- 1 Yes (**THANK AND TERMINATE**)
  - 2 No (**CONTINUE**)
  - 3 Don't know/refused (**THANK AND TERMINATE**)
- S5. Are you responsible or do you have at least co-responsibility for the purchase or lease of a car in your household?
- 1 Yes (**CONTINUE**)
  - 2 No (**THANK AND TERMINATE**)
  - 3 Don't know/refused (**THANK AND TERMINATE**)
- S6. Are you the principle driver or a driver at least 50% of the time of a car in your household?
- 1 Yes (**CONTINUE**)
  - 2 No (**THANK AND TERMINATE**)
  - 3 Don't know/refused (**THANK AND TERMINATE**)
- S7. Have you purchased or leased a NEW vehicle in the past three years for which you are the principal driver?

- 1 Yes, purchased (**CONTINUE**)
- 2 Yes, leased (**CONTINUE**)
- 3 Yes, both (**CONTINUE**)
- 4 No (**THANK AND TERMINATE**)
- 5 Don't know/refused (**THANK AND TERMINATE**)

**NOTE: WOULD LIKE A GOOD MIX OF LEASED AND PURCHASED VEHICLES**

S8. Are you likely to purchase or lease a NEW vehicle within the NEXT three years?

- 1 Yes (**CONTINUE**)
- 2 No (**THANK AND TERMINATE**)
- 3 Don't know/refused (**THANK AND TERMINATE**)

Q1. How often, if ever, do you use public transportation?

- 1 Everyday or almost everyday (**CONTINUE**)
- 2 A few times a week (**CONTINUE**)
- 3 **A few times a month (CONTINUE)**
- 4 **Less often (CONTINUE)**
- 3 Never (**CONTINUE**)
- 4 Don't know/refused (DO NOT READ) (**CONTINUE**)

**NOTE: RECRUIT MAX OF 2-3 EVERYDAY OR ALMOST EVERYDAY USERS**

Q2. On average, how many miles do you drive per week?

- 1 Less than 20 miles per week (**CONTINUE**)
- 2 20 to 100 miles per week (**CONTINUE**)
- 3 More than 100 miles per week (**CONTINUE**)
- 4 Don't know/refused (DO NOT READ) (**CONTINUE**)

**NOTE: RECRUIT MAX OF 2-3 LESS THAN 20 MILES PER WEEK DRIVERS**

Q3. What is the make, model, and year of the car you drive most often? (**ONLY 1 CAR PLEASE**)

A: Make: \_\_\_\_\_ (**CONTINUE**) (**CHECK QUOTA**)

B: Model: \_\_\_\_\_ (**CONTINUE**) (**CHECK QUOTA**)

C: Year: \_\_\_\_\_

- 1 Small car (Ex: Aveo, Focus, Rio, Civic, Beetle, Mazda3)
- 2 Midsize/Large car (Ex: Taurus, Malibu, Camry, Accord, Maxima, Cadillac, Mazda6)
- 3 Pick-up truck
- 4 Sport Utility vehicle (Ex: Explorer, Pilot, Edge, Enclave, TrailBlazer, Grand Cherokee)

**NOTE: WOULD LIKE A MIX OF VEHICLES – TRY FOR AT LEAST ONE OF EACH SMALL CAR, MIDSIZE/LARGE CAR, PICK-UP TRUCK, SPORT UTILITY VEHICLE, AND MINIVAN/VAN.**

Now, just for demographic purposes...

Q4. What is the highest level of education you have completed?

- 1 Some high school (**CONTINUE**)
- 2 High school graduate (**CONTINUE**)
- 3 Some college (**CONTINUE**)
- 4 Two-year college graduate/technical school (**CONTINUE**)
- 5 Four-year college graduate (**CONTINUE**)
- 6 Some post-graduate work (**CONTINUE**)
- 7 Post-graduate degree (**CONTINUE**)
- 8 Refused (**DO NOT READ**) (**CONTINUE**)

**NOTE: RECRUIT 5 TO 8 WITH SOME COLLEGE OR LESS AND 5 TO 8 WITH TWO-YEAR DEGREE OR HIGHER. WOULD LIKE A GOOD MIX OF EDUCATION WHEN POSSIBLE.**

Q5. Which of the following categories best describes your ethnic background?

- 1 African American/Black (**CONTINUE**)
- 2 Hispanic (**CONTINUE**)
- 4 Caucasian/White (**CONTINUE**)
- 5 American Indian, or (**CONTINUE**)
- 6 Asian American/Oriental (**CONTINUE**)
- 7 Other (**DO NOT READ**) (**CONTINUE**)

**NOTE: RECRUIT MAX 7 CAUCASIAN/WHITE AND AT LEAST 4 HISPANIC/LATINO. PREFER A MIX OF MINORITIES.**

Q6. Which of the following categories best describes your age?

- 1 Under 18
- 2 18 to 24
- 3 25 to 34
- 4 35 to 44
- 5 45 to 54
- 6 55 to 64
- 7 65 to 74
- 8 75 to 84
- 9 84 and over
- 10 Refused (**DO NOT READ**) (**CONTINUE**)

**NOTE: RECRUIT 5 TO 8 UNDER 45 YEARS OF AGE AND 5 TO 8 45 YEARS OF AGE AND OLDER. WOULD LIKE A GOOD MIX OF AGE CATEGORIES.**

Q7. Record Gender (**DO NOT ASK**)

- 1 Male
- 2 Female

**NOTE: WOULD LIKE A 50/50 MIX OF MALE AND FEMALE RESPONDENTS.**

INVITE. Based on the information you have given me, I would like to invite you to attend a very interesting research study. We will be discussing current and future vehicle choice preferences and are inviting a select group of people to participate in this informal discussion held at \_\_\_\_\_.

The discussion will take approximately 2 hours and, as a token of our appreciation, we are offering \$100 at the close of the session.

Will you be able to attend on Wednesday, August 27 at 6:00 pm at \_\_\_\_\_ in Beverly Hills, California?

- 1 Yes
- 2 No (**THANK RESPONDENT FOR HIS/HER TIME, TERMINATE**)
- 3 Don't know at this time (**THANK RESPONDENT FOR THEIR TIME. ASK "If you are interested in participating and can meet at the scheduled time, please call \_\_\_\_\_ and ask for \_\_\_\_\_", THEN THANK AGAIN AND TERMINATE**)

I am delighted that you will participate. Your answers will represent the opinions of others and, therefore, your participation is of great importance. Since we will be sending a letter of confirmation with a map to the location of the discussion, I'd like to verify the spelling of your name and the address you wish your invitation to be sent. (**RECORD ON SCREENER AND ASK FOR TELEPHONE NUMBER WHERE THEY CAN BE REACHED DURING THE DAY**)

INVITE2. Would you prefer we fax or mail your invitation?

- 1 Fax – **WHAT IS YOUR FAX NUMBER? ( \_ \_ \_ ) \_ \_ \_ - \_ \_ \_ \_**
- 2 Mail

CONC. Thank you for your time and cooperation. We look forward to seeing you on Wednesday, August 27 at 6:00 pm.

TERM. We have our quota of people meeting your profile. However we appreciate your interest in participation and if we have a cancellation, may we recontact you?

- 1 Yes
- 2 No

## **Appendix E: Commercial Fleet Manager Focus Group Screenener**

Abt SRBI#: 4444

PARTICIPATION: **California Commercial Fleet Owners/Managers**  
LOCATION: **San Francisco**  
DATE: **Tuesday, August 26, 2008, 6:00 pm (Dinner)**  
INCENTIVE: **\$150**  
# RECRUITED: **12 Commercial Fleet Owners**

NAME: \_\_\_\_\_ HOME PHONE: \_\_\_\_\_  
NAME OF COMPANY: \_\_\_\_\_ BUS. PHONE: \_\_\_\_\_  
MAILING ADDRESS: \_\_\_\_\_ CELL PHONE: \_\_\_\_\_  
\_\_\_\_\_  
FAX NUMBER: \_\_\_\_\_  
CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ RECRUITER: \_\_\_\_\_  
ZIP: \_\_\_\_\_ DATE LETTER SENT: \_\_\_\_\_

( ) MALE ( ) FEMALE

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### CALIFORNIA COMMERCIAL FLEET GROUP SCREENER

**WOULD LIKE A MIX MAKE/MODEL OF CARS IN FLEET**

**WOULD LIKE A MIX OF INDUSTRIES – EXCLUDE GOVERNMENT VEHICLES, RENTAL CAR SERVICES, AND  
AUTOMOBILE MANUFACTURERS AND DEALERS**

**WOULD LIKE A MIX OF NUMBER OF CARS IN FLEET**

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**(LEAVE MESSAGE ON 3<sup>RD</sup> ATTEMPT)**

MESSG: Hello, my name is \_\_\_\_\_ and I'm calling from \_\_\_\_\_, a  
\_\_\_\_\_ company located in San Francisco, California. We are not selling  
or promoting any products or services. We are conducting a vehicle preference research  
discussion group in your area of California commercial fleet employees in charge of making  
fleet vehicle purchase decisions. People who participate in this session will be paid. If you are  
interested in participating, please call \_\_\_\_\_ and ask for \_\_\_\_\_.  
Thank you for your time.

---

INT1. Hello, may I please speak to the person in charge of making the purchase decisions for the fleet  
of vehicles in your company?

- 1 Yes (**CONTINUE**)
- 2 No (**OBTAIN THE PERSON'S NAME AND SCHEDULE A CALL BACK**)
- 3 Refused (**THANK AND TERMINATE**)

INT2. Hello, my name is \_\_\_\_\_ and I'm calling from \_\_\_\_\_, a \_\_\_\_\_ company  
located in San Francisco, California. I am not selling or promoting any products or services. We

are conducting a vehicle research study of California commercial fleet purchase decision makers regarding current and future vehicle fleet choice preferences. I have just a few questions and I want to assure you that we are simply interested in your opinions and there will not be any attempt to sell you anything at any time.

S1. Do you work for or are retired from any of the following...? **(READ LIST)**

- 1 A market research company **(THANK AND TERMINATE)**
- 2 The media (TV, radio, newspaper, magazine) **(THANK AND TERMINATE)**
- 3 An advertising agency **(THANK AND TERMINATE)**
- 4 An automotive dealer or leasing agency, or **(THANK AND TERMINATE)**
- 5 An automotive manufacturer or supplier **(THANK AND TERMINATE)**
- 6 None of the above **(CONTINUE)**

S2. Have you, yourself, participated in any kind of AUTOMOTIVE research in the past 12 months?

- 1 Yes **(THANK AND TERMINATE)**
- 2 No **(CONTINUE)**
- 3 Don't know/refused **(THANK AND TERMINATE)**

S3. Have you, yourself, participated in research of ANY KIND in the past 6 months where you have been paid for your opinion?

- 1 Yes **(THANK AND TERMINATE)**
- 2 No **(CONTINUE)**
- 3 Don't know/refused **(THANK AND TERMINATE)**

S4. Are you a decision maker for the purchase or lease of light duty trucks, vans, or cars used by a commercial establishment operating in California? **(NOTE: A DECISION MAKER MAY VARY BY SIZE OF COMPANY; SMALL COMPANY MAY BE AN OWNER OR CFO, LARGER COMPANY MAY BE A FLEET MANAGER/DIRECTOR, OWNER OR CFO).**

**IF NECESSARY: LIGHT DUTY VEHICLES ARE CARS, MINI- AND FULL-SIZED VANS, AND SMALL AND FULL-SIZED PICKUP TRUCKS THAT WEIGH LESS THAN 10,000 POUNDS.**

- 1 Yes **(CONTINUE)**
- 2 No **(CAN I PLEASE SPEAK WITH THAT PERSON? IF YES, GOTO INT2, IF NO, OBTAIN THE PERSON'S NAME AND SCHEDULE A CALL BACK)**
- 3 Don't know/refused **(CAN I PLEASE SPEAK WITH THAT PERSON? IF YES, GOTO INT2, IF NO, OBTAIN THE PERSON'S NAME AND SCHEDULE A CALL BACK)**

S5. Have you purchased or leased a NEW light duty commercial vehicle within the past three years?

- 1 Yes, purchased **(CONTINUE)**
- 2 Yes, leased **(CONTINUE)**
- 3 Yes, both **(CONTINUE)**

- 4 No (**THANK AND TERMINATE**)
- 5 Don't know/refused (**THANK AND TERMINATE**)

**NOTE: WOULD LIKE A GOOD MIX OF LEASED AND PURCHASED VEHICLES**

S6. Are you likely to purchase or lease a NEW light duty commercial vehicle within the NEXT three years?

- 1 Yes (**CONTINUE**)
- 2 No (**THANK AND TERMINATE**)
- 3 Don't know/refused (**THANK AND TERMINATE**)

S7. What type of industry is your company in?

- 1 \_\_\_\_\_ (**CONTINUE**)
- 2 Daily rental car company (such as Hertz, Enterprise, etc) (**THANK AND TERMINATE**)
- 3 Government agency (**THANK AND TERMINATE**)
- 4 **Automobile manufacturer or dealer** (**THANK AND TERMINATE**)
- 5 Don't know/Refused (**THANK AND TERMINATE**)

Q1. Please tell me the total number of light duty cars, vans, trucks, or sport utility vehicles in your fleet.

- 1 1 to 4 (Small) (**CONTINUE**) (**CHECK QUOTA**)
- 2 5 to 9 (Medium) (**CONTINUE**) (**CHECK QUOTA**)
- 3 10 + (Large) (**CONTINUE**) (**CHECK QUOTA**)

**NOTE: WOULD LIKE 1 TO 4 TO BE MAX OF 7, WOULD LIKE 5 TO 9 TO BE MAX OF 4, WANT 10+ TO BE MAX 4**

Q2. How many of each of the following types of light duty vehicles do you have in your fleet?

- 1 # \_\_\_\_\_ Cars
- 2 # \_\_\_\_\_ Minivan/van
- 3 # \_\_\_\_\_ Pick-up trucks
- 4 # \_\_\_\_\_ Sport utility vehicles

**NOTE: TRY FOR A MIX OF VEHICLES IN FLEET**

Q3. Please tell me the primary make and model of the:

**If Q2=1;** Cars in your fleet

Make \_\_\_\_\_ (**CONTINUE**)  
 Model \_\_\_\_\_ (**CONTINUE**)



If Q2=2; Minivan/vans in your fleet

Make \_\_\_\_\_ (CONTINUE)

Model \_\_\_\_\_ (CONTINUE)

If Q2=3; Pick-up trucks in your fleet

Make \_\_\_\_\_ (CONTINUE)

Model \_\_\_\_\_ (CONTINUE)

If Q2=4; Sport utility vehicles in your fleet

Make \_\_\_\_\_ (CONTINUE)

Model \_\_\_\_\_ (CONTINUE)

**NOTE: TRY FOR A MIX OF MAKES AND MODELS OF VEHICLES IN FLEET**

Q4. Record Gender (**DO NOT ASK**)

- 1 Male
  - 2 Female
- 

INVITE. Based on the information you have given me, I would like to invite you to attend a very interesting research study. We will be discussing current and future commercial fleet vehicle choice preferences and are inviting a select group of people to participate in this informal discussion held at \_\_\_\_\_.

The discussion will take approximately 2 hours and, as a token of our appreciation, we are offering \$150 at the close of the session.

Will you be able to attend on Tuesday, August 26 at 6:00 pm at \_\_\_\_\_ in San Francisco, California?

- 1 Yes
- 2 No (**THANK RESPONDENT FOR HIS/HER TIME, TERMINATE**)
- 3 Don't know at this time (**THANK RESPONDENT FOR THEIR TIME. ASK "If you are interested in participating and can meet at the scheduled time, please call \_\_\_\_\_ and ask for \_\_\_\_\_", THEN THANK AGAIN AND TERMINATE**)

I am delighted that you will participate. Your answers will represent the opinions of others and, therefore, your participation is of great importance. Since we will be sending a letter of confirmation with a map to the location of the discussion, I'd like to verify the spelling of your name and the address you wish your invitation to be sent. (**RECORD ON SCREENER AND ASK FOR TELEPHONE NUMBER WHERE THEY CAN BE REACHED DURING THE DAY**)

INVITE2. Would you prefer we fax or mail your invitation?

- 1 Fax – **WHAT IS YOUR FAX NUMBER? ( \_\_\_ ) \_\_\_ - \_\_\_\_**
- 2 Mail

CONC. Thank you for your time and cooperation. We look forward to seeing you on Tuesday, August 26 at 6:00 pm.

TERM. We have our quota of people meeting your profile. However we appreciate your interest in participation and if we have a cancellation, may we recontact you?

- 1 Yes
- 2 No